ST.JOSEPH'S COLLEGE FOR WOMEN (AUTONOMOUS), VISAKHAPATNAM

V SEMESTER **BIOTECHNOLOGY** TIME: 3 Hrs/ Week

BTH 5702 (3) **TECHNIQUES IN NURSERY DEVELOPMENT** Max. Marks: 100

(Skill enhancement course (Elective)

W.e.f 20AH batch

OBJECTIVES: To enable the students to –

- Get awareness on establishment of nursery and related SOP's
- Acquire the necessary equipments and economized administrative principles
- Obtain the sustainable methodologies for sowing and plant let propagation
- Adopt the effective practices for seasonal plantations and to control measures to weed and pests
- Gain comprehensive knowledge on various grafting technology

COURSE OUTCOMES: Students will

- **CO1:** Understand different types of nurseries
- **CO2:** Identify various facilities required to set up of a nursery
- **CO3:** Understand expertise related to various practices in a nursery
- **CO4:** Adopt the efficient SOP's on seasonal plantation and their management
- **CO5:** Acquire skills to get an employment or to become an entrepreneur

UNIT-I: Introduction to Nursery

1. Definition, objectives and importance
2. Basic requirements for a nursery layout and components of a good nursery
3. Types of nurseries
4. Bureau of Indian standards (BIS – 2008) related to nursery

UNIT – II: Nursery Inputs

1. Tools, implements and containers.
2. Nursery media – Electricity, equipment and machinery management
3. Types of nursery beds and their preparations.
4. Precautions and maintenance of nursery beds

UNIT – III: Seeds and Propagules

1. Selection of seed and different sowing methods
2. Use of different plant parts for vegetative propagation to raise nursery
3. Different techniques of vegetative propagation

UNIT – IV: Management Practices

1. Routine seasonal operations in a nursery
2. Supply of water, nutrients and removal of weeds
3. Identification of pests and diseases, control & prevention methods

UNIT V: Grafting Techniques

1. Introduction to grafting, definition, types and tools for grafting
2. Steps involved in simple, splice graft, tongue graft, whip graft, cleft graft and wedge graft
3. Grafting of horticultural & floricultural crops and applications

REFERENCES

1. Ratha Krishnan, M.,*et al.*(2014) Plant Nursery
2. Management: Principles and Practices, Central Arid Zone Research Institute– ICMR, Jodhpur, Rajasthan.
3. Vikas Kumar, Anjali Tiwari, Practical manual of Nursery management, Agri – biotech Press, New Delhi.
4. Tarai Ranjan Kumar, (2020) Plant propagation and nursery management, New India Publishers.
5. P.K.Ray, (2020) Essentials of plant nursery management.
6. P.K.Ray, (2012) How to start and operate a Plant Nursery.

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